Summary of Changes to the Quality Assurance Project Plan for the Discoverer $PM_{2.5}$ Speciation Monitoring Program, Version 1.1 (April 2012)

Change	Reference / Section
Update revision and date from Revision 1.0, January 2012 to Revision 1.1, April 2012. Minor spacing, formatting, pagination.	Cover page and footers throughout the document.
No response is provided to EPA comment #1. Specifics related to QC limits are provided to address other EPA comments as noted below.	Section A6. EPA Comment #1.
Added ammonium, potassium, and sodium cations to the list of parameters analyzed by ion chromatography. The laboratory analytical method is actually a hybrid NIOSH 7903 and EPA 300.0 ion chromatography method in order to detect all target analytes on the filter sample media.	Table A-3. EPA Comment #2.
Added more explanation to clearly delineate laboratory quality control acceptance criteria. Added sample quality control report figures A-3 through A-9	Section A7. EPA Comment #3.
Added reference citation to footnote in Table A-8	Table A-8 EPA Comment #4.
Provided supplemental information on the training provided to staff.	Section A8. EPA Comment #5.
No change in sample collection frequency was made. See explanation provided in the QAPP re-submittal letter of transmission.	Section B1. EPA Comment #6
Chester LabNet analytical procedure SOPs added to Appendix D.	Section B1 Appendix D. EPA Comment #7

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No change to Section B3 was made. Section 12.2.2 of the EPA STN QAPP (2000) states "*This QAPP recommends that gel packs be frozen for at least 3 days at a temperature of -32 °C. This will ensure that the filters do arrive at the RTI laboratory at or under 4°C.*" This suggests that storage between -32°C and 0°C is allowable. Section 12.3.2 of the EPA STN QAPP however states "*It is strongly recommended that the site operator not freeze the samples before they are shipped to RTI (the lab). The freezing of the filters may cause some of the ionic constituents to change chemically.*" During 2011, 79.5% of the 1-hour ambient temperature (2 meter) measurements at Wainwright, Alaska were found to be at or below 4°C. 68% of the measurements were below 0 °C. A similar trend was observed at Deadhorse. Any change in chemical composition due to cold conditions is expected to have already occurred prior to or during sample collection. The proposed sample handling conditions should have no adverse impact on sample integrity. Samples will be batched and shipped to the laboratory as indicated in the QAPP. Samples will be held in refrigeration < 4°C and shipped with ice packs in such a way that samples remain < 4°C. Shipments will occur roughly every 18 days ensuring that samples are received at the laboratory within 30 days of the exposure date to meet the $PM_{2.5}$ mass holding time criteria.	Section B3. EPA Comment #8

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Change	Reference / Section
Added Table B-1 that includes: parameter code, description, AQS method code, collection method, analysis method. Added Table B-2 that provides parameter detection limits.	Section B4. EPA Comment #9.
Clarified usage of field blanks. Data from field blank analysis will be reported with ambient sample data and used to identify possible sample handling contamination. No statistical evaluation of field blank data will be performed.	Section B5. EPA Comment #10.
Added section B6.4 to more completely describe personnel responsibilities.	Section B6.4 EPA Comment #11.
Clarified data validation procedures. Added SLR Supplemental $PM_{2.5}$ speciation data validation procedure to Appendix D.	Section B10.2 EPA Comment #12.
Clarified that independent audits will be performed by an independent 3rd party auditor on a quarterly basis concurrent with other performance audits performed at the monitoring station. The EPA request to perform QC calibrations on separate trips will be honored when practical. Due to the remote nature of the sites and travel expenses and logistics, it is likely that some QC calibrations will be performed on the same visit as performance audits. SLR policy requires audits to be performed prior to any instrument calibrations when done on concurrent visits. If instrument adjustments are made, and the auditor is still on-site, a second audit is performed to ensure samplers are operating within specifications after adjustment.	Section C1.1 EPA Comment #13.

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Clarified data validation procedures. Added SLR Supplemental $PM_{2.5}$ speciation data validation procedure to Appendix D.	Section C1.2 EPA Comment #14.
Align $PM_{2.5}$ speciation reporting with permit reporting requirements where practical. Clarify that monthly data requirements will be satisfied by reporting from Point Lay and Kaktovik. Due to the lag time in sample collection and analysis, $PM_{2.5}$ speciation data will be unavailable to report on a monthly basis. As such, only quarterly and annual data reports will be prepared. Quarterly and annual data reports will be submitted within 60 days of the end of the calendar quarter or year as required.	C1.1. Operational Audits C2 Reports to Management
Revised XRF target analyte list to align with current EPA Speciation Trends Network target list.	Table A-4, Table B-1, Table B-2